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The following article was written by one of America's foremost experts on election security. He believes that the November 2, 2004, election was rigged for several million votes, to totally change the outcome. As a former professor of mechanical engineering at the University of California at Berkeley, and a lecturer in applied mathematics at Oxford University in England, we believe he is eminently qualified to make the investigation. (He also is the designer of the first Votomatic Voting Machine, which is now in the Smithsonian.) Because the "source codes" used in the new computer-driven vote tabulators are instantly erasable seconds after the polls close, there was zero security over the entire country, and this was taken advantage of in a criminal manner. We believe Prof. Rouverol deserves to be heard.

# The New Science of Election Rigging: Will It Destroy Democracy or Just the Democratic Party?

## I. The Numbers

An in-depth analysis of the results of the 2004 election in Florida is a depressing experience. The only conclusion that can be drawn from the official returns is that more than 300,000 votes were switched from Kerry to Bush. What this means for all the people on our planet is extremely ominous. There is also substantial evidence that commensurate rigging was also carried out in all ten of the so-called "swing states." In order to ascertain which of the 3351 counties in the US were rigged in the same manner as 62 of the 67 counties of Florida, four new equations have been derived for application to their "official" returns. (The equations are described below.)

As soon as an evaluation by the new equations is assembled for all US counties, a decision must be made on (1) how to repair the damage, and (2) who should be indicted. As will be shown below, the defendants will include the officers of the major manufacturers of Precinct Ballot Counters, which also include the makers of

Touchscreen equipment, and the top officers of the Republican Party who requested or engineered the rigging.

In the meantime, until the overall picture emerges of which US counties were rigged and for how many votes, the only nationwide number available is an extrapolation based on the Florida vote switch. The total Florida vote was only about 6.2 percent of the nationwide vote of about 117 million. To estimate what the total vote switch for the entire nation might be if the same amount of rigging went on in all states, the vote switch of Florida is divided by 0.062. The result is just over 5 million votes.

More to the point, if the votes switched in Florida were given back to Kerry, he would have carried Florida's (27 electoral votes) and become President! This is why the true Florida vote must be ascertained, and why the new equations are so important. Nothing short of a rerun of the election in Florida in those counties that flunked the vote switch test will reveal the true winner. All of the highly riggable machinery, including Touchscreen equipment and Optical Scanner Precinct Ballot Counters, must be barred from the reruns. Paper ballots must be used, with bipartisan manual counting.

It is of course to be expected that the Republicans and the machinery vendors will try to move heaven and earth to prevent honest reruns, because they fear the results will incriminate them. So be it. This frantic opposition will tell the voters at least as much as the actual rerun results.

Before describing the new equations, let us take a look at an aspect of the official results that is at least as important as the equations. That is the huge amount of information that is disclosed by the use of two types of election equipment, one of which had relatively limited rigging, while the other was heavily rigged. The results for the 15 counties that used Touchscreen equipment were totally different from those that used Optical Scanning Ballot Counters, but what is more important, the more honest part of the election totally demolished the flimsy contentions of the Republicans about gay marriage and abortion repugnance, unpredictable "Dixiecrats," and poor Democratic Party electioneering. The immense difference in official returns between the two types of

systems showed two things beyond any shadow of a doubt: (1) In the comparatively minor rigging of the Touchscreen voting machines, the Democratic candidates won that part of the election by more than 11 percent; and (2), if there was any shift of party line voting, it was less than 1 or 2 percent and thus had no effect on outcome.

This brings us to an examination of the Op Scan counties' results -- and what may be fairly described as the crime of the century. Much has been said of what is called a "paper trail," or more specifically, a "verifiable audit record." This would have been very helpful a few years ago, but it no longer affords any security to the election system, because the U.S. election system has been totally privatized, without any notification or knowledge provided to the voting public. Prior to the backing out of Sequoia Voting Systems (which company now has its entire voting system business up for sale), there were three major players in the voting system business. With the exit of Sequoia, substantially *all* of the U.S. election business will be held by Diebold and E.S.&S.: the manufacture and sale of the voting machines, the ballots, the ballot counters, and more recently, the voter registration procedures -- everything. If you want a recount, the likelihood of recounting the actual ballots marked by the voters may be extremely small.

What are the prospects of Americans being able to reclaim meaningful voting rights, whether in general elections, recall elections, or primary elections? The prospects under the present administration may be non-existent, because its hegemony of governmental power rests on its collusion with the privatizers of the election system.

All of this must be borne in mind when we speak of a rig-test for exposing vote rigging. This is because three of the four rig-test procedures depend on reliable figures for voter registration. In the past, registration numbers have been fairly reliable, as can be judged by the fact that the national figure on party-line voting is above 90 percent. Since the privatizers are well on their way to privatizing voter registration, this may be the last year in which party registration numbers are not also rigged. The Democratic Party will then be a token party, used to show the world that we are not a one-party country but always coming out second in every meaningful election.

Subject to these reservations regarding the probable future manipulation of registration numbers, the author would like to draw attention to two numbers shown in Table A, which lists the Florida major party registration numbers as of October 2004, together with the "official" (meaning rigging is included) returns for the election of November 2, 2004. The Table A numbers are best summarized by two ratios, the $D_r/R_r$ ratio and the $D_o/R_o$ ratio. D and R stand for Democratic and Republican, respectively; subscripts $_r$ and $_o$ stand for "registration" and "official" results respectively.

Table A lists the main election numbers for all Florida counties, as printed by the State of Florida. The totals allow an easy calculation of the $D_r/R_r$ and $D_o/R_o$ ratios. The $D_r/R_r$ registration ratio of 1.112 for the 15 Touchscreen counties is reasonably close to the "Official" Results figure of 1.074. This shows that when there is little rigging, Florida votes very close to the party line. So the Republicans have to rig big to win.

## Table A
## Registered Voters and "Official" Results

### Touchscreen Counties

| | | Registered Voters | | | "Official" Results | | |
|---|---|---|---|---|---|---|---|
| County | Vendor | Republican | Democrat | Total | Republican | Democrat | Total |
| Broward | ES&S | 283,562 | 534,325 | 1,058,069 | 236,794 | 441,733 | 686,715 |
| Charlotte | ES&S | 51,100 | 36,305 | . 113,808 | 44,402 | 34,227 | 79,730 |
| Collier | ES&S | 89,565 | 41156 | 168,673 | 82,493 | 43,277 | 126,916 |
| Hillsborough | Sequoia | 218,042 | 259,041 | 621,201 | 241,630 | 210,892 | 455,970 |
| Indian River | Sequoia | 41,883 | 24,493 | 81,643 | 36,744 | 23,850 | 61,087 |
| Lake | ES&S | 76,442 | 55,315 | 161,269 | 73,971 | 47,963 | 123,269 |
| Lee | ES&S | 144,845 | 90,566 | 304,937 | 114,153 | 76,874 | 193,326 |
| Martin | ES&S | 51,900 | 27,186 | 98,857 | 41,303 | 30,149 | 72,334 |
| Miami-Dade | ES&S | 368,463 | 453,167 | 1,058,801 | 326,362 | 383,032 | 713,022 |
| Nassau | ES&S | 20,304 | 15,218 | 41,353 | 23,726 | 8,543 | 32,656 |
| Palm Beach | Sequoia | 233,464 | 329,019 | 729,575 | 174,233 | 275,030 | 452,061 |
| Pasco | ES&S | 106,656 | 99,208 | 265,974 | 103,194 | 84,729 | 190,861 |
| Pinellas | Sequoia | 231,668 | 223,394 | 590,989 | 222,630 | 222,103 | 448,875 |
| Sarasota | ES&S | 115,244 | 75,065 | 240,592 | 104,446 | 88,225 | 195,183 |
| Sumter | ES&S | 17,625 | 16,533 | 40,523 | 19,794 | 11,583 | 31,835 |
| | | 2,050,766 | 2,280,011 | 5,576,264 | 1,845,876 | 1,982,210 | 3,863,840 |
| | | $R_r$ | $D_r$ | | $R_o$ | $D_o$ | |

$D_r/R_r = 1.112$ $D_o/R_o = 1.074$

## Op Scan Counties

| | | Registered Voters | | | "Official" Results | | |
|---|---|---|---|---|---|---|---|
| County | Vendor | Republican | Democrat | Total Reg. | Republican | Democrat | Total votes |
| Alachua | Diebold | 39,576 | 71,891 | 142,358 | 47,615 | 62,348 | 111,022 |
| Baker | Soquoia | 3,132 | 8,831 | 12,887 | 7,738 | 2,180 | 9,955 |
| Bay | ES&S | 44,781 | 38,715 | 101,315 | 53,305 | 21,034 | 74,890 |
| Bradford | ES&S | 4,166 | 9,039 | 14,721 | 7,553 | 3,244 | 10,851 |
| Brevard | Diebold | 151,511 | 123,441 | 338,195 | 152,838 | 110,153 | 265,075 |
| Calhoun | Diebold | 994 | 6,880 | 8,350 | 3,780 | 2,116 | 5,961 |
| Citrus | Diebold | 37,674 | 35,313 | 90,780 | 39,496 | 29,271 | 69,457 |
| Clay | ES&S | 60,152 | 27,255 | 106,464 | 61,813 | 18,887 | 81,144 |
| Columbia | Diebold | 10,730 | 19,369 | 34,282 | 16,753 | 8,029 | 24,984 |
| DeSoto | Diebold | 3,785 | 8,836 | 14,901 | 5,510 | 3,910 | 9,493 |
| Dixie | Diebold | 1,451 | 7,499 | 9,676 | 4,433 | 1,959 | 6,440 |
| Duval | Diebold | 190,110 | 238,025 | 515,202 | 218,476 | 157,624 | 378,330 |
| Escambia | ES&S | 83,147 | 77,262 | 189,833 | 93,311 | 48,207 | 142,895 |
| Flagler | Diebold | 19,159 | 17,933 | 47,068 | 19,624 | 18,563 | 38,455 |
| Franklin | ES&S | 1,212 | 5,890 | 7,620 | 3,472 | 2,400 | 5,930 |
| Gadsden | ES&S | 3,011 | 22,287 | 26,884 | 6,236 | 14,610 | 20,948 |
| Gilchrist | Diebold | 2,747 | 5,295 | 9,035 | 4,930 | 2,015 | 7,007 |
| Glades | Diebold | 1,479 | 3,864 | 5,963 | 1,983 | 1,434 | 3,434 |
| Gulf | ES&S | 2,566 | 6,460 | 9,627 | 4,797 | 2,398 | 7,259 |
| Hamilton | ES&S | 1,139 | 6,032 | 7,645 | 2,786 | 2,252 | 5,065 |
| Hardee | Diebold | 2,777 | 6,635 | 10,399 | 5,047 | 2,147 | 7,245 |
| Hendry | ES&S | 5,280 | 9,686 | 17,144 | 5,756 | 3,960 | 9,774 |
| Hernando | Diebold | 45,288 | 42,547 | 109,656 | 40,137 | 35,006 | 75,832 |
| Highlands | ES&S | 26,778 | 23,950 | 60,176 | 20,475 | 12,986 | 33,687 |
| Holmes | ES&S | 2,339 | 7,984 | 10,982 | 6,410 | 1,810 | 8,298 |
| Jackson | ES&S | 5,978 | 19,404 | 27,138 | 12,092 | 7,529 | 19,750 |
| Jefferson | Diebold | 1,925 | 6,724 | 9,300 | 3,298 | 4,134 | 7,477 |
| Lafayette | ES&S | 569 | 3,568 | 4,309 | 2,460 | 845 | 3,325 |
| Leon | Diebold | 45,534 | 97,745 | 171,182 | 47,902 | 79,591 | 128,316 |
| Levy | Diebold | 6,242 | 13,502 | 22,617 | 10,408 | 6,073 | 16,649 |
| Liberty | ES&S | 322 | 3,598 | 4,075 | 1,927 | 1,070 | 3,021 |
| Madison | Diebold | 1,694 | 9,040 | 11,371 | 4,195 | 4,048 | 8,306 |
| Manatee | Diebold | 84,894 | 63,240 | 191,635 | 81,237 | 61,193 | 143,469 |
| Marion | ES&S | 78,599 | 73,150 | 184,257 | 81,235 | 57,225 | 139,581 |
| Monroe | Diebold | 19,883 | 18,547 | 51,377 | 19,457 | 19,646 | 39,517 |
| Okaloosa | Diebold | 72,904 | 31,481 | 127,455 | 69,320 | 19,276 | 89,288 |
| Okeechobee | Diebold | 5,532 | 10,897 | 18,627 | 6,975 | 5,150 | 12,184 |
| Orange | ES&S | 186,657 | 213,773 | 531,774 | 191,389 | 192,030 | 385,547 |
| Osceola | Diebold | 42,472 | 52,054 | 129,487 | 32,812 | 30,295 | 63,440 |
| Polk | Diebold | 115,339 | 125,986 | 295,742 | 123,457 | 85,923 | 210,642 |
| Putnam | Diebold | 12,742 | 26,163 | 45,344 | 18,303 | 12,407 | 30,960 |
| Santa Rosa | ES&S | 53,865 | 27,077 | 96,359 | 51,952 | 14,635 | 67,175 |
| Seminole | Diebold | 107,589 | 77,917 | 241,230 | 107,913 | 76,802 | 185,762 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| St.Johns | Diebold | 58,435 | 31,027 | 109,635 | 58,802 | 26,215 | 85,699 |
| St.Lucie | Diebold | 50,490 | 57,112 | 137,951 | 36,919 | 43,367 | 82,798 |
| Suwannee | ES&S | 5,877 | 13,947 | 21,930 | 11,145 | 4,513 | 15,785 |
| Taylor | Diebold | 2,170 | 8,680 | 11,481 | 5,466 | 3,049 | 8,580 |
| Union | ES&S | 1,293 | 5,333 | 7,063 | 3,396 | 1,251 | 4,675 |
| Volusia | Diebold | 111,265 | 126,451 | 309,930 | 100,209 | 106,853 | 208,410 |
| Wakulla | Diebold | 3,726 | 10,300 | 15,396 | 6,777 | 4,896 | 11,763 |
| Walton | Diebold | 16,421 | 12,062 | 32,777 | 17,526 | 6,205 | 23,939 |
| Washington | Diebold | 3,663 | 9,662 | 14,421 | 7,367 | 2,911 | 10,363 |
| | | 1,834,045 | 1,979,857 | 4,725,026 | 1,950,213 | 1,445,675 | 3,419,852 |
| | | $R_r$ | $D_r$ | | $R_o$ | $D_o$ | |

$D_r/R_r = 1.08$ $D_o/R_o = 0.741$

Note: "Official" Results are those of November 3, 2005 when the Florida vote was 98.6% in.

## II. The Equations

This documentation of the Florida crime needs first of all to be viewed in a way that looks at the correlation between voting patterns and registration patterns for all 67 of Florida's counties separately. This makes it evident which are urgently in need of an honest rerun election. This is one place the four rig-test equations can become very useful:

$$C=100(1-|V|/30) \qquad \text{Equation \#1}$$

$$\text{Where } V=D_o/R_o - D_r/R_r \qquad \text{Equation \#2}$$

The symbol "C" stands for "Correlation" of voting with party registration, wherein a zero value implies no significant correlation between votes and registration, and a 100% value implies maximum correlation "C". (Negative values of "correlation" are counted as zero.) The other four symbols, $D_r$, $R_r$, $D_o$ and $R_o$, are as defined above.

If there has been rigging to favor the Republican candidate, $R_o$ will be increased and $D_o$ decreased. Since $R_o$ is in the denominator and $D_o$ in the numerator of the first ratio, $D_o/R_o$, this ratio will be reduced by an amount proportionate to twice the amount of rigging, in which case the second (minus) term, $D_r/R_r$, will predominate, and "V" will have a negative value, with an absolute value that reflects the amount of rigging. The following is a table labeled Table B showing the figures for "V" for each of the counties of Florida for the November 2, 2004 election. Also shown are the numbers of votes ("S") switched from the Democratic party to the Republican party in each county (as well as vice versa). The numbers are calculated from a second equation derived from the above equation for "V":

$$S=FR_0 \qquad \text{Equation \#3}$$

$$\text{Where } F=(V/100) \div [(D_r/R_r)+1] \qquad \text{Equation \#4}$$

This is called the "Vote Switch" equation. Symbols are as noted above. The column labeled "F" lists what is called the "Fix Factor" and represents the above quotient which is a percentage. In effect, "F" is listed so the reader will know what percent of the

Republican vote $R_o$ has been provided by votes switched from Kerry to Bush and are stated by this monograph to be illegal. (Values of "v" that carry a plus sign, and "F" and "S" that carry a negative sign, are signed to show that they benefit the Democrats rather than the Republicans. All but three were recorded in the Touchscreen counties.

Table B below lists a sea of numbers that will discourage many readers. They are there, rather than in an appendix, because relative to words which have declined in utility as the scope of "1984" type doublespeak is spread over the land. The best hope of saving democracy rests with numbers, because they do not lie.

A few words are still essential, however, such as those needed to define the columns in Table B. It will be noted that three of the columns headed by the letters "C", "F", and "T" respectively include entries that are in red. The purpose of this is to draw attention to the particular numerical evidence that discloses election fraud. This evidence falls into the categories: (1) "C", standing for Correlation between party registration and voter choices; (2) "F" standing for "Fix Factor" that states the percentage of Republican (or Democratic) votes that are produced by vote switching. Switching comes in two forms: voluntary, which is legal, and involuntary, which is illegal; (3) "T", which stands for "Turnout Difference", based on percentage of "Official" Results $R_0$ or $D_0$, as the case may be.

The criteria or boundary lines of tolerability are different for each of these three "rig indicators" and appear to be arbitrary but are not. What governs the boundary percentages is that because vote numbers are cumulative for each of the rig indicators, their combined effect must not be sufficient to alter an outcome. Here are the critical percentages preposed for Florida:

"C" (Correlation): Any greater than zero, which is a very lax criterion that reflects an intention to avoid charging rigging in very small counties that may have an unexpected volume of "dixiecrats". The value of 30 for "V" in eq. 2 is used.

"F" (Fix Factor): How much fraud is acceptable when an election is very close? For Florida the criterion needs to be small: say 1%.

"T" (Turnout Difference): This is the most powerful rig-indicator of all, and is almost as stringent a factor as F. The best guide to acceptable turnout variations is indicated by the unrigged county data. The turnouts for Broward County, for example, were 83.5% for the Republican voters and 82.6% for the Democrats, giving a difference of 0.9%. Accordingly the criterion for turnout difference that indicates rigging in evaluation ("E") was set at 2%.

Since all four of the rig-test evaluation equations must be satisfied, only five of the 67 Florida counties qualified as free of rigging. The other 62 counties' votes should be judged to have been rigged, and should justify a 62 county rerun of the election using hand-counted ballots.

## Tabulation of the Three Quantities "C", "F" and "T" that Expose Rigging

### Table B

### A. 15 counties with Touchscreen equipment:

| | "V" | "S" | "F" | "C"% | "T"% | "E" |
|---|---|---|---|---|---|---|
| Broward | -1.9 | 1,560 | 0.66 | 93.7 | 0.9 | Not Rigged |
| Charlotte | +6.4 | -1,585 | **-3.57** | 78.7 | **7.4** | Rigged |
| Collier | +6.5 | -3,613 | **-4.38** | 78.3 | **13.1** | Rigged |
| Hillsborough | -31.5 | 34,795 | **14.40** | **0.0** | **29.4** | Rigged |
| Indian River | +6.4 | -1,484 | **-4.04** | 78.7 | **9.7** | Rigged |
| Lake | -7.6 | 3,262 | **4.41** | 74.7 | **10.7** | Rigged |
| Lee | +4.8 | -3,372 | **2.95** | 84.0 | **6.1** | Rigged |
| Martin | +20.6 | -5,583 | **-13.52** | 31.3 | **31.3** | Rigged |
| Miami-Dade | -5.6 | 8,159 | **2.50** | 81.3 | 4.1 | Rigged |
| Nassau | -39.0 | 9,331 | **22.30** | **0.0** | **60.8** | Rigged |
| Palm Beach | +17.0 | -12,301 | **-7.06** | 43.3 | **9.0** | Rigged |
| Pasco | -10.9 | 5,820 | **5.67** | 63.7 | **11.4** | Rigged |
| Pinallas | +3.4 | -3,748 | **-1.71** | 88.7 | 3.3 | Rigged |
| Sarasota | +19.4 | -12,246 | **-11.75** | 35.3 | **26.9** | Rigged |
| Sumter | -35.3 | 3,605 | **18.21** | **0.0** | **42.2** | Rigged |
| | | | | 22,580 | | |

### B. 52 counties with Op Scan "Precinct Ballot Counters"

| | "V" | "S" | "F" | "C"% | "T"% | "E" |
|---|---|---|---|---|---|---|
| Alachua | -50.8 | 8,580 | **18.0** | **0.0** | **33.6** | Rigged |
| Baker | -254. | 5,141 | **66.4** | **0.0** | **222.4** | Rigged |
| Bay | -47. | 13,445 | **25.2** | **0.0** | **64.7** | Rigged |
| Bradford | -174. | 4,147 | **54.9** | **0.0** | **195.4** | Rigged |
| Brevard | -9.4 | 7,917 | **5.2** | 68.7 | **11.7** | Rigged |
| Calhoun | -636. | 3,035 | **80.3** | **0.0** | **349.5** | Rigged |
| Citrus | -19.6 | 3,989 | **10.1** | 34.7 | **21.9** | Rigged |
| Clay | -14.7 | 6,243 | **10.1** | 52.0 | **33.5** | Rigged |
| Columbia | -132. | 7,924 | **47.3** | **0.0** | **114.6** | Rigged |
| DeSoto | -162. | 2,684 | **48.7** | **0.0** | **101.3** | Rigged |
| Dixie | -473. | 3,392 | **76.6** | **0.0** | **279.4** | Rigged |
| Duval | -53.1 | 51,560 | **23.6** | **0.0** | **48.7** | Rigged |
| Escambia | -41.2 | 19,969 | **21.4** | **0.0** | **49.7** | Rigged |

| | | | | | | |
|---|---|---|---|---|---|---|
| Flagler | +1. | -59 | -0.3 | 96.7 | 1.1 | Not Rigged |
| Franklin | -417. | 2,472 | **71.2** | **0.0** | **245.8** | Rigged |
| Gadsden | -506. | 3,754 | **60.2** | **0.0** | **141.6** | Rigged |
| Gilchrist | -152. | 2,559 | **57.9** | **0.0** | **141.4** | Rigged |
| Glades | -190. | 1,037 | **52.3** | **0.0** | **97.0** | Rigged |
| Gulf | -202. | 3,327 | **57.4** | **0.0** | **149.8** | Rigged |
| Hamilton | -449. | 1,986 | **71.3** | **0.0** | **207.3** | Rigged |
| Hardee | -197. | 2,937 | **58.2** | **0.0** | **149.3** | Rigged |
| Hendry | -115. | 2,343 | **40.7** | **0.0** | **68.1** | Rigged |
| Hernando | -6.7 | 1,405 | **3.5** | 77.7 | **6.3** | Rigged |
| Highlands | -26. | 2,805 | **13.7** | 13.3 | **22.3** | Rigged |
| Holmes | -313. | 4,545 | **70.9** | **0.0** | **250.3** | Rigged |
| Jackson | -263. | 7,658 | **63.3** | **0.0** | **163.5** | Rigged |
| Jefferson | -224. | 1,645 | **49.9** | **0.0** | **109.8** | Rigged |
| Lafayette | -662. | 2,006 | **81.5** | **0.0** | **408.6** | Rigged |
| Leon | -48.5 | 7,377 | **15.4** | **0.0** | **23.8** | Rigged |
| Levy | -158. | 5,204 | **50.0** | **0.0** | **121.7** | Rigged |
| Liberty | -1062. | 1,680 | **87.2** | **0.0** | **568.7** | Rigged |
| Madison | -437. | 2,895 | **69.0** | **0.0** | **202.8** | Rigged |
| Manatee | +.8 | -406 | -0.5 | 97.3 | 1.1 | Not Rigged |
| Marion | -21.5 | 9,064 | **11.2** | 28.3 | **25.3** | Rigged |
| Monroe | +7.1 | -775 | **-4.0** | 76.3 | **7.0** | Rigged |
| Okaloosa | -15.4 | 7,487 | **10.8** | 48.7 | **33.9** | Rigged |
| Okeechobee | -123. | 2,916 | **41.8** | **0.0** | **78.8** | Rigged |
| Orange | -14.2 | 12,670 | **6.6** | 52.7 | **12.7** | Rigged |
| Osceola | -30.3 | 4,466 | **13.6** | **0.0** | **19.1** | Rigged |
| Polk | -39.6 | 23,369 | **18.9** | **0.0** | **38.8** | Rigged |
| Putnam | -138. | 8,236 | **44.0** | **0.0** | **96.2** | Rigged |
| Santa Rosa | -22.1 | 7,639 | **14.7** | 26.3 | **42.4** | Rigged |
| Seminole | -1.2 | 755 | 0.7 | 96.0 | 1.7 | Not Rigged |
| St.Johns | -8.5 | 3,293 | **5.6** | 71.7 | **16.1** | Rigged |
| St.Lucie | -1.7 | 311 | 0.8 | 94.3 | 1.2 | Not Rigged |
| Suwannee | -197. | 6,561 | **58.4** | **0.0** | **157.2** | Rigged |
| Taylor | -344. | 3,761 | **68.8** | **0.0** | **216.8** | Rigged |
| Union | -377. | 2,498 | **73.5** | **0.0** | **239.1** | Rigged |
| Volusia | -7. | 3,306 | **3.3** | 76.7 | **5.6** | Rigged |
| Wakulla | -204. | 3,673 | **54.2** | **0.0** | **134.4** | Rigged |
| Walton | -38.1 | 3,856 | **22.0** | **0.0** | **55.3** | Rigged |
| Washington | -224. | 4,538 | **61.6** | **0.0** | **171.0** | Rigged |
| | | 302,825 | | | | |

If the election of 2004 showed anything at all, it showed that all machinery that is guided by a computer has an inherent zero security. This is because any program can be made to erase its manipulation feature by its last "source code" instruction, and to also erase the instruction. There is thus no software evidence of the crime that survives more than a few minutes after the polls close. This is why the "smoking gun" of a software crime is not obtainable and the relevant evidence of the rigging crime consists of the rigged result. As shown above, this totally conclusive evidence of the crime abounds in the Florida results.

Because table "B" shows such huge differences in turnout between rigged and unrigged counties, more needs to be said about it. Turnouts are very easy to calculate. They are simply a ratio of votes (times 100 for percent) divided by the number of registered voters. Since the rig-test equations have enabled us to distinguish between "unrigged" counties and "rigged" counties, the most meaningful ratios will be those that contain in the numerator the total $D_0$ votes in unrigged counties and in the denominator the total registered voters of the same party ($D_r$ and the same rigging status). This means that there will be eight turnouts in which we are interested:

**Table C**
**Average Turnout Percentages**

**15 Touchscreen Counties**

| 1 Unrigged | | 14 Rigged | |
|---|---|---|---|
| Democratic | Republican | Democratic | Republican |
| (1) 82.6% | (2) 83.5% | (3) 89.8% | (4) 93.5% |

**52 Op Scan Counties**

| 4 Unrigged | | 48 Rigged | |
|---|---|---|---|
| Democratic | Republican | Democratic | Republican |
| (5) 99.7% | (6) 97.1% | (7) 71.6% | (8) 107.0% |

These eight turnout percentages give important information about the manner in which the Florida 2004 election was rigged. Because (4) is larger than (3) by more than (2) is larger than (1), the 14 counties that were tabulated were rigged, but on average only a modest amount. This is why the Democrats won the election in the Touchscreen counties, counted as a separate group. In the 52 Op Scan counties, (8) is way larger than (7), while (6) is smaller than (5), which shows that the 48 counties were heavily rigged. The most important conclusion to be drawn from table C is that the Republicans cannot win in Florida without heavy rigging.

## III. The Big Switch

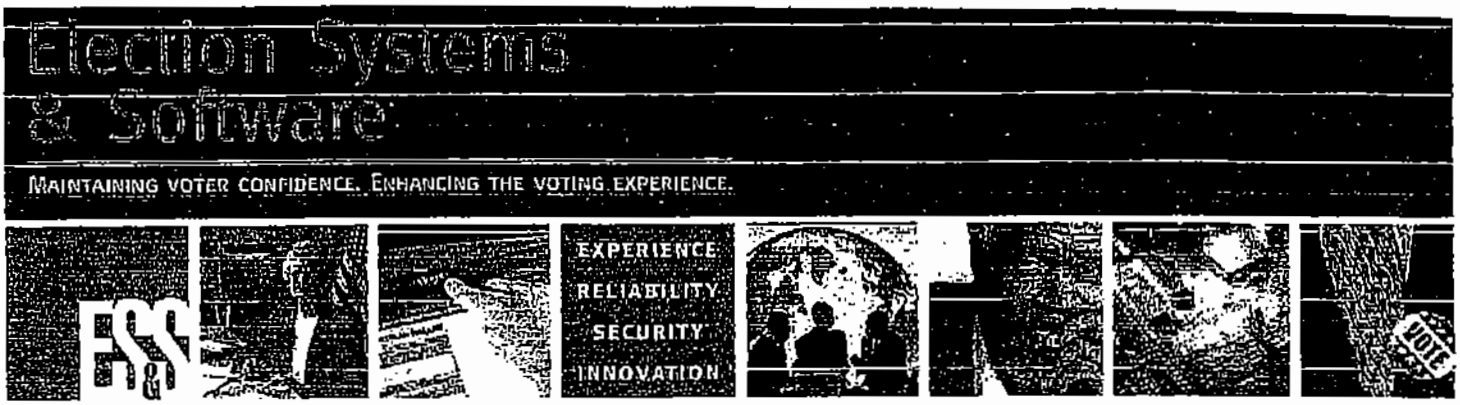
The switching of some 300,000 votes from Kerry to Bush in the Florida election would not, in most scenarios, produce a popular vote victory for the Republicans. The nationwide majority, as well as Florida-wide majority of registered voters is in the 8 to 11% range in favor of the Democrats. Since the total vote was about 117 million and 8% of this is 9.36 million votes, then half of this is 4.68 million, which is the minimum number of votes that should be switched to produce a bare popular majority.

As noted above, if the rigging was instituted nationwide on the same scale as in the Florida election, the switched nationwide votes

would be slightly over 5 million votes. To rig only that number of votes would run a considerable risk of not winning. To rig only Florida and nine other swing states would probably mean that the rigs would have to be about four times as great as those needed in a nationwide all-state rig. Also, the risk of exposure would be greatly increased. So this observer predicts that when the election returns of all the counties of all 50 states are subjected to the Rig-Test equation examination, in most cases a chart such as Table B, with a majority of counties highlighted, will be produced. The writer's examination of exit poll data confirms that all 10 swing state elections were also rigged, and one and one half million votes were switched just in these states.

The implications of this are alarming. It means that if the average constituent voter dislikes the Administration's policies, so that the 8% to 11% disparity in registration numbers has grown to say 15% in 2008, the privatizers and the Republican party will simply increase the 5 million vote switch to 9 or 10 million, and the so-called Justice Department and the media will again look the other way.

# ES&S Model 100 Advertisement




PRODUCT OVERVIEW

## Model 100 Precinct Ballot Counter

The ES&S Model 100 is a precinct-based, voter-activated paper ballot counter and vote tabulator. Utilizing advanced Intelligent Mark Recognition (IMR) visible light scanning technology, the Model 100 Precinct Ballot Counter is a proven mainstay for jurisdictions worldwide employing precinct level vote tabulation.

### Ensures Ballot Integrity

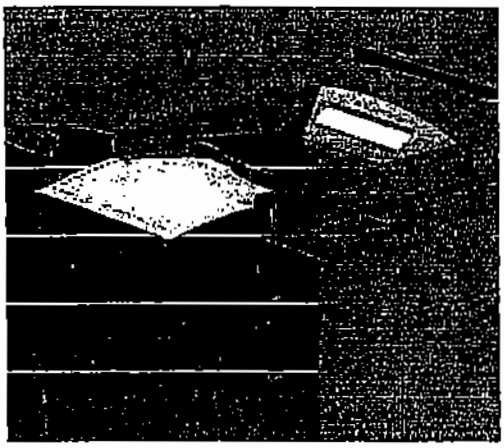
To ensure voter intent and ballot integrity, the Model 100 has the ability to alert voters to overvoted races and undervoted or blank ballots. In the event of overvoted and undervoted situations, the Model 100 can immediately return the ballot to the voter, displaying the specific race in question in the LCD display. Voters may then instruct the Model 100 to "Accept" or "Return" the ballot through the simple push of a button. Returned ballots provide voters the opportunity to privately revise and then recast their ballot.

### Security and Reliability

The Model 100 with its rugged, stainless steel chassis features two independent, lockable ballot containers that provide a separate storage location and optional electronic divertor for ballots containing write-ins. An emergency ballot compartment is also included to securely store ballots in the unlikely event of unit failure or ballot disputes. Up to six hours of continuous precinct counter operation is delivered by a maintenance-free, sealed battery charged by an internal power supply. An internal thermal printer is provided in order to print election results and document an audit log of all unit transactions.

### State-of-the-Art Flexibility

Driven by an Intel processor, the Model 100 utilizes QNX operating software that provides real-time resource management, true multi-tasking capability, and unparalleled election accuracy. Dual Contact Image Sensors enable both sides of the ballot to be accurately scanned simultaneously. The Model 100 efficiently processes right-hand or left-hand oval and arrow response-area ballots, and ballots may be inserted without any orientation restrictions.



### Fast Election Reporting

Immediately upon poll closing, the Model 100's internal thermal printer prints out vote totals and enables election officials to immediately transmit results to election central. The Model 100 comes equipped with dual PCMCIA slots, an optional wireless modem for transmitting results, two external serial ports and one parallel port allowing the connection of a wide array of external components. All election definition programs, actual vote tallies, and audit logs are retained securely on the PCMCIA memory card within each Model 100 unit.

### Tested, Certified, Proven

The Model 100 has been fully tested by an independent testing authority, certified to meet or exceed the rigorous government standards, and proven through use in thousands of actual elections worldwide.

The ES&S Model 100 ad is introduced to help explain how it is possible to switch several million votes and leave no trace except for the numbers. The ES&S Model 100 is used in thousands of precincts in most of the 50 U.S. states, and it has several features that make it a sitting duck for rigging. The vulnerable element of this machine, which gives it zero security, is of course that it is computer-driven by a program (or a program "patch") that is fully erasable electronically.

The features mentioned in the ES&S Model 100 ad that give concern to professional design engineers (including the writer) are the following:

(1) The ES&S Model 100 ad states that "Up to six hours of continuous precinct counter operation is delivered ..." I ask, "Why only six hours when the voting day is 12 or 13 hours?" Certainly a country that can put a man on the moon knows how to design a power supply that can run for 12 or 13 hours without needing the ministrations of a vendor service attendant. What seems most likely is that access to the machine is needed for some other purpose.

(2) Six hours is exactly the length of time that the vendors need, with NO rigging, to see how much rigging in the last six or seven hours is needed in order to win the election. Too little rigging means failing to win, and too much rigging risks exposing the fraud by making the manipulation too blatant. Six hours of unrigged operation is what fooled Tony Blair in London, who went to bed on the night of November 2, 2004, thinking that the exit poll had Kerry winning by more than seven percent. He was astonished to find when he woke up that Bush had been awarded the victory. All that was needed for that to happen was for 15 or 16 percent of Kerry's votes in the last half of election day to be switched to Bush. The source code was instructed to transfer to Candidate B every sixth vote cast for Candidate A (at least), or perhaps all 300,000 votes were shifted in the last half hour. Easy as pie.

The second feature present in the ES&S vote counter is the optional wireless modem. A modem cannot only be used to send messages; it can also be used to receive messages to the source

code such as, "Turn on Program B in place of Program A" or "Shift every fifth vote for Candidate A to Candidate B". The use of the modem for triggering the rigging, at the beginning of hour number seven, saves the expense of sending a vendor service representative to turn on the "internal power supply". So, there are two possible ways to trigger the rigging at the end of hour number six -- one human and the other electronic.

## IV. The Issues

### 1. A Crime and a Botched Cover-up

The crime is election fraud and consists of switching more than 300,000 votes cast on Touchscreen and Optical Scanning equipment on November 2, 2004 in the state of Florida. The tentative calculations are 22,580 switched votes cast on Touchscreen equipment manufactured by ES&S and Sequoia Company, and 302,825 switched votes cast on Optical Scanner equipment manufactured by ES&S and Diebold Election Systems. The perpetrators were programmers, service personnel and executives of Diebold, ES&S and Sequoia companies and top officials of the Republican Party and the state government of Florida; to be named later; all of whom either engineered the vote switch or performed it.

The botched cover-up has involved many individuals, the most recent of which is Mr. Karl Rove, official of the Republican Party and the Bush administration. Mr. Rove has recently stated publicly that the Republicans were trailing late in the count but in the last minutes of the election he "called out the [Republican] base." He of course gave no numbers to this "base," much less names or addresses, or even their counties. But he did say they turned the election around. Analytical methods described below were able to give more specific information about this so-called "base".

The tables designated as Table A above list voter registration and "Official" results for both Republicans and Democrats for each Florida county. These numbers were added for each party, to obtain totals and then these totals were divided to give ratios, as follows: $D_r/R_r$ and $D_o/R_o$ and -- first for the Touchscreen counties and a second separate set for the Op Scan counties.

The Table A lists also give totals for both Touchscreen and Op Scan counties grouped separately that will be designated in this analysis as $T_{o1}$ and $T_{o2}$, respectively. This enables us to calculate new ratios, $D_o/T_{o1}$, $R_o/T_{o1}$, $D_o/T_{o2}$,and $R_o/T_{o2}$, which together expose the crime:

**Table D**
**The Double Ratio Increase Produced by Vote Switching**

**For Touchscreen counties:**

$D_o/T_{o1}$ = 1,482,201/3,863,840 x 100 = 51.3%

and $R_o/T_{o1}$ = 1,845,876/3,863,840 x 100 = 47.8%

(51.3% + 47.8% = 99.1%)

**For Op Scan counties:**

$D_o/T_{o2}$ = 1,445,676/3,419,852 x 100 = 42.3%

and $R_o/T_{o2}$ = 1,950,213/3,419,852 x 100 = 57.0%

(42.3% + 57.0% = 99.3%)

Several things should be noted about the four major party voting percentages listed above: The first two percentages, 51.3% and 47.8%, are almost exactly where they should be as reference figures. This quotient is 1.073 and that is very close to the 1.074 figure by which the Democrats won the Touchscreen voting. What is especially notable about the last two percentages is that 42.3% is 9.0% smaller than 51.3% and 57.0% is 9.2% larger than 47.8%. The absolute difference between the two disparities, 0.2%, could very well be part of what Rove called his "base". The "surge" would then be (1-9.0/9.2) times the Op Scan total 3,419,852, which is 75,237 votes.

The main part of the 9% disparity (97.8%), could only be from a vote switch because only a vote switch gives equal and opposite changes to a ratio's numerator and denominator. A 9% portion of (3,419,852 minus 75,237) is the switch: 301,015 votes. This differs from the Op Scan vote switch calculated from the Vote Switch equation, 302,825, by only 1,810 votes. This gives the equations very high marks not only for validity but also for accuracy.

The Table D combined percentages, of 99.1% and 99.3% show that almost all of the Green and other minor parties and the decline-to-state registerees voted for one or the other of the major parties.

## 2. 117,000,000 Proxies

The most important lesson to be learned from the last several Florida elections is that however useful the computer may be in other applications, in elections it is an unmitigated disaster. This is because every computer has to have a program and every program has been the creation of a programmer (and his Republican employers). What this does is completely delude everyone who believes he/she has cast a vote, when in fact all the voter has done is given a proxy to the programmer, who often will have written the source code to give the vote to an entirely different candidate. This delusion has of course been aided and abetted by the designer of the voting equipment, so the vendor can sell it. The vendor has told each Registrar of Voters, "Trust me." The text of this article shows beyond any doubt that that trust was totally misplaced.

## 3. The Zero Security of Computers

Quite aside from the proxy problem described above, there are at least three other reasons why computers should be outlawed for use in elections:

(a). Secret programs: In a landmark decision, a U.S. court presided over by a judge who failed to recuse himself ruled that the vendors of election equipment were entitled to treat as "trade secrets" all of their vote-counting computer programs ("source codes"). This means that any programmer could design a source code that switched every third or fourth Kerry vote over to Bush and no software evidence of the crime was admissible in a court of law.

(b). Instant erasing of evidence: Every honest computer scientist will confirm that every incriminating source code instruction that the programmer wishes to obliterate can be instructed to erase itself electronically in seconds after the polls close, as well as the final instruction itself. So heavy rigging could be built into the original vote-counters in all the elections throughout the country. As a result, all election results including primary elections, recall elections and

general elections, including those of 2000 and 2004, are totally meaningless. (It would take only three programmers, one each at Sequoia, Diebold and ES&S, to do this for the entire nation.)

(c). Motive and Opportunity: While secrecy and erasibility give riggers good protection against discovery, as in most crimes there are several other circumstances that are relevant, for example motivation and opportunity. Certainly ample motivation is present in the form of colossal fees that candidates from parties that have registration deficits of 8 to 11 percent will pay to gain an office that enables them to do profitable favors for constituents.

With regard to "opportunity", that too is readily available in a privatized industry. In a fully automated voting or vote counting device, the "opportunity" may be built into the software sold with the hardware. No perpetrator need be present in the precinct, because an ingenious programmer can write a program that will tailor the vote switch to work as well in a small county as a large one. All the necessary ingredients such as timers or counters are standard elements used in computers, so the programmer is doubly protected by the many miles he is separated from his multi-state crimes.

## 4. Meaningless Tests

The last paragraph of the ES&S Model 100 Precinct Ballot Counter (See the ES&S Model 100 ad) states "Tested, Certified, Proven.... fully tested by an independent testing authority, certified to meet or exceed the rigorous government standards...." This is totally meaningless "feel good" wording designed for prospective buyers who know little or nothing about computers or their vulnerabilities.

The truth of the matter is that there is no conceivable way that a computer can be fully testable. The hardware part of any computer is readily testable but the software is totally interchangeable and there is no realistic method of ensuring that the software tested will be the same software that is in the computer on election day or at any specific time during election day. If there are set "standards" for software testing, any programmer worth his salary will quickly discover what they are and will design his source code to dodge them. It is strictly a no-win situation.

Do the vendors have access to the voting machines (Touchscreen) and/or Optical Scan Vote Counters that facilitate the application of program patches that modify the source code? The text of the ES&S Model 100 ad describes two features that would cause any design engineer (such as the author) to question whether the design was intended to make life easier for riggers. They are the features described in Section III above.

## 5. Can Turnout Data Expose Rigging?

Since source-code secrecy and erasability make it impossible to obtain software evidence against riggers, it is important to examine all election results to answer questions of guilt. One aspect of election data that can be surprisingly helpful is comparative turnout.

In analyzing election data to expose fraud, the turnout that is of interest is the turnout for each party rather than a lumped total for all parties. In addition, a distinction is made between "apparent" turnout and "real" turnout. Using the symbols from Table A and C, "apparent" turnout has two components, namely "real" turnout and an increase or decrease component that reflects any switched votes S.

In Section 1 above, it was stated that a ratio is helpful to investigation of election fraud because it distinguishes between a voter 'surge" which shows a big increase in either the numerator or the denominator, and a "vote switch" that discloses an increase in one of these ratio factors and a decrease in the other, most often by about the same amount. Because it is the latter that occurred in 62 of Florida's 67 counties that we know for certain that a major fraud was committed (See Table C). Here are the key questions to ask about Table C and their answers:

A. Can turnout data expose rigging? Yes, absolutely.

B. Does turnout data confirm the validity and power of the Correlation, Vote Switch, and Turnout equations? Yes indeed.

C. In 39 of the 48 rigged Op Scan counties and three of the rigged Touchscreen counties, the Republican turnout was

greater than 100%. Is that possible by any other means than vote switching? Absolutely not.

D. The turnout ratio for the Democrats in all the rigged counties was way lower than it was in the unrigged counties. Is this possible except as a result of vote switching? No way.

E. Is there any evidence in the turnout numbers to support Karl Rove's lame explanation that the Republican phone network belatedly called out a large (but mysterious) "base" other than a massive last minute vote switch? None whatsoever.

## 6. Numerical Evidence of the Crime

To recapitulate the foregoing circumstances -- any one of which should suffice to incriminate the perpetrators of the 2004 Florida election fraud and which in combination make the evidence of guilt unarguable -- they are briefly summarized here:

A. While the Touchscreen results for the election showed a 7 to 11% victory for Kerry, the highly riggable Op Scan vote counters gave Bush a 35% margin, with Republican vote totals that exceeded 100% of the official registered Republican voters in 39 out of 48 Florida counties.

B. A pair of equations developed to spot rigged votes by comparing the number of cast votes with the number of registered voters, designed to identify a lack of correlation as a "deviation" "V," showed that 39 out of 67 Florida counties failed the test (V>30 or C=0).

C. A second pair of equations developed to calculate the number of Kerry votes switched to Bush in each of the Florida counties showed the number as being 325,485 in a county-by-county analysis and 302,825 in an analysis of all the Op Scan counties considered as a group. In this calculation, 62 out of 67 Florida counties failed the test (F>1.0).

D. The use of ratios to analyze fraud allows vote switching to be easily differentiated from claimed vote surges, particularly when turnout data includes information about unrigged counties.

E. The preponderance of minus signs in the Op Scan counties showed clearly that the rigging heavily favored the Bush candidacy.

F. Evaluation of the election results summarized in table B showed heavy rigging of the Op Scan counties, especially visible in the turnout differential characteristic.

## 7. Reading the Returns

Much can be learned from studying election returns with care. For example, the whole question of defections can be deduced. The Republicans claim that millions of Democrats voted for Bush because of his "moral values" on abortion and gay marriage. A close look at the returns from the five counties in Florida that were free of rigging reveals that this "moral values" contention is a complete fiction. The writer believes that this contention was made in order to provide an explanation as to why Bush carried Florida when Kerry had an eleven percent advantage in the pre-election polls.

In Broward County, for example, for every 100 voters that backed Bush because his "moral values" were higher than Kerry's, there were 187 voters who considered Kerry's "moral values," of seeking peace and active rather than verbal compassion with respect to joblessness, poverty, age, illness, etc. to be the higher "moral value". This is clearly shown in the party defections in the Touchscreen Florida counties, of which eight defected from Bush to Kerry and four defected from Kerry to Bush. In terms of votes, 18,806 Democrats defected to Bush while 43,982 Republicans defected to Kerry. The vote gain for Kerry was 25,176 Republican votes.

So much for the Republican claim that "millions of Democrats defected from their party to vote for Bush". The truth is exactly the opposite. The numbers show that throughout the country, more than 400,000 Republicans defected from their party to vote for Kerry.

Kerry did not lose the election as a result of Democratic defections. He lost for one and only one reason: massive vote tabulation fraud, executed by Diebold, ES&S and Sequoia equipment with the collusion of top Republicans.

## 8. The Impending Battle to Save Democracy

The U.S., while almost nobody is looking, is well on its way to becoming a totalitarian state. This is the result of a gigantic election fraud made possible by the use of computers in the election system. In the opinion of the writer, democracy has only a slim chance of being reinstated, which rests on whether a few Republican Congresspersons or Senators defect from their party long enough to reform the election system.

As noted above, any country that uses computers to drive voting machines or vote tabulation equipment has given a proxy for every single vote to a small and anonymous group of programmers. In the U.S., these programmers are employed by two closely connected companies (Diebold and ES&S) that have in effect formed a cartel that has privatized U.S. elections in order to increase profits and advance the Bush agenda.

To eliminate the proxy problem and the unlimited election rigging now controlling the outcome of all general, primary and recall elections, it is totally imperative that the legislative branch of the U.S. government immediately enact legislation that limits the use of computers to the function of computer-predicted election outcomes, leaving all franchise functions to hand-counted paper ballots compiled with the aid of bipartisan-operated open-tape mechanical adding machines.

The legislative branch needs to enact a "first law of democracy" that specifies that no ballot shall count unless it meets the following criteria:

A. The voter has personally inserted his ballot into a multi-locked opaque ballot box.

B. Each party that has an interest in said ballot shall have a separate lock on said ballot box and shall have an equal

right to participate in the counting of the votes on said ballot box and shall have an equal right to participate in the counting of the votes on said ballot and to oversee the compiling of county and state totals with the aid of open-tape adding machines.

C. All counting of said votes shall be done visually by hand in view of authorized representatives of every party on the ballot.

D. Counting shall commence immediately after closing of the polls, shall be completed within three days and all ballots shall be totally guarded against tampering and then placed back into a multi-locked ballot box.

E. This hand-counted ballot shall be the sole official ballot result and shall take precedence over any other mechanical, electric or electronic record, including but not limited to those produced by devices such as Touchscreen, Precinct Ballot Counters or Optical Scanners.

F. Since voters in most countries would like to discover the winners of elections in three hours rather than three days, the above-mentioned devices may be used to calculate results independently from the official ballot hand-counting but shall henceforth not be sold as "election equipment" but only as "election outcome prediction equipment". In the case of Touchscreen, the equipment may be advertised as also a printer of "summary ballots" that list only the voter's choices, for hand-held review by the voter prior to insertion into a locked ballot box.